Application Number 09/730,246
Reply to Office Action of October 27, 2003

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1-35 (Cancelled)

36. (Currently amended): A method comprising laser etching a photosensitive master to form a master pattern that is inverse of a desired replica pattern, the desired replica pattern defining a track pitch less than 2 multiplied by a laser spot size associated with a laser used to perform the laser etching, wherein the laser spot size is defined by a full width at half maximum intensity.

37. (Previously Presented): The method of claim 36, wherein the desired replica pattern defines a track pitch less than 1.6 multiplied by the laser spot size.

38. (Previously Presented): The method of claim 36, further comprising laser etching the photosensitive master down to a substrate interface to define flat master groove bottoms that correspond to flat land tops of the desired replica pattern.

39. (Previously Presented): The method of claim 38, wherein the flat master groove bottoms define widths greater than 25 percent of the track pitch.

40. (Previously Presented): The method of claim 38, wherein the flat master groove bottoms define widths greater than 35 percent of the track pitch.

41. (Previously Presented): The method of claim 38, wherein the flat master groove bottoms define widths greater than 50 percent of the track pitch.

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42. (Previously Presented): The method of claim 38, further comprising laser etching the photosensitive master down to the substrate interface to define the flat master groove bottoms that correspond to flat coplanar land tops of the desired replica pattern, wherein the flat coplanar land tops define substantially sharp corners.

43. (Previously Presented): The method of claim 36, wherein the track pitch is less than or equal to 400 nanometers.

44. (Previously Presented): The method of claim 43, wherein a groove depth in the master pattern is greater than 80 nanometers and a land width of the replica disk pattern is greater than 160 nanometers.

45. (Previously Presented): The method of claim 36, further comprising:

specifying a thickness of photosensitive material;

coating a master substrate with the specified thickness of photosensitive material to form the photosensitive master;

exposing the photosensitive material to a controlled amount of optical energy using the laser; and

exposing the photosensitive material to developer solution, wherein the specified thickness of photosensitive material, the controlled amount of optical energy, and the exposure to developer solution collectively define on the photosensitive master the inverse of the desired replica pattern.

46. (Previously Presented): The method of claim 36, wherein the desired replica disk pattern defines lands and grooves.

47. (Previously Presented): The method of claim 36, wherein the desired replica disk pattern defines transducer-detectable surface variations.

48. (Previously Presented): The method of claim 36, further comprising:

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creating a first generation stamper using the master;

creating a second generation stamper using the first generation stamper; and

creating replica disks using the second generation stamper, wherein the replica disks are formed with the desired replica pattern.

49. (Previously Presented): The method of claim 48, wherein the replica disks comprise flyable media having flat coplanar replica land tops.

50. (Currently amended): A method comprising laser etching a photosensitive master down to a substrate interface to form a master pattern that is inverse of a desired replica pattern, the desired replica pattern defining a track pitch less than 2 multiplied by a laser spot size associated with a laser used to perform the laser etching, ~~wherein the flat master groove bottoms define widths greater than 25 percent of the track pitch~~ wherein the laser spot size is defined by a full width at half maximum intensity according to an equation *(constant) (λ) / (NA)*, where the constant is approximately equal to 0.57, λ is a wavelength associated with the laser and NA is a numerical aperture used in the laser etching.

51. (Previously Presented): The method of claim 50, the desired replica pattern defining a track pitch less than 1.6 multiplied by the laser spot size.

52. (Currently amended): The method of claim 51, wherein ~~the flat~~ master groove bottoms are flat and define widths greater than 50 percent of the track pitch.

53. (Previously Presented): The method of claim 52, wherein the track pitch is less than or equal to 400 nanometers.

54. (Currently amended) A method of creating a master comprising:

specifying a thickness of photosensitive material;

coating a master substrate with the specified thickness of photosensitive material;

exposing the photosensitive material to a controlled amount of optical energy

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using a laser, the laser defining a spot size; and

exposing the photosensitive material to developer solution, wherein the specified thickness of photosensitive material, the controlled amount of optical energy, and the exposure to developer solution collectively define on the master an inverse of a desired replica pattern, the desired replica pattern defining a track pitch less than 2 multiplied by the spot size of the laser, wherein the laser spot size is defined by a full width at half maximum intensity according to an equation *(constant) (λ) / (NA)*, where the constant is approximately equal to 0.57, λ is a wavelength associated with the laser and NA is a numerical aperture used in the laser etching.

55. (Previously Presented) The method of claim 54, the desired replica pattern defining a track pitch less than 1.6 multiplied by the spot size of the laser.